REMARKS

Applicants appreciate the Examiner's thorough consideration provided the present application. Claims 1-28 are now present in the application. Claims 1, 8, 10, 14 and 27 have been amended. Claims 29 and 30 have been cancelled. Claims 1, 8, 14, 21 and 27 are independent. Reconsideration of this application, as amended, is respectfully requested.

Claim Rejections Under 35 U.S.C. §112

Claims 1-7 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. This rejection is respectfully traversed.

In view of the foregoing amendments, it is respectfully submitted that this rejection has been addressed. Accordingly, all pending claims are now definite and clear. Reconsideration and withdrawal of the rejection under 35 U.S.C. § 112, second paragraph, are therefore respectfully requested.

Claim Rejections Under 35 U.S.C. § 102

Claims 1 and 8-30 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Jeong et al., U.S. Patent No. 6,539,512 (hereinafter "Jeong"). Claims 8-10, 14 and 15 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Zook, U.S. Patent No. 6,052,815 (hereinafter "Zook"). These rejections are respectfully traversed.

Complete discussions of the Examiner's rejections are set forth in the Office Action, and are not being repeated here.

In light of the foregoing amendments, Applicants respectfully submit that these rejections have been obviated and/or rendered moot. Without conceding to the propriety of the Examiner's rejections, but merely to timely advance the prosecution of the application, as the Examiner will note, independent claims 1, 8, 14 and 27 have been amended.

Independent claim 1 recites a combination of steps including "combining the plurality of data blocks as appended into one ECC (Error Correction Code) block subject to error correction", "reordering rows including the outer parity so as to insert said rows including the outer parity separately into other rows including no outer parity, for each of said plurality of data blocks in said appending step" and "writing sequentially rows having the same row number in said plurality of data blocks re-arranged in said reordering step, to the storage medium".

Independent claim 8 recites a combination of steps including "combining said plurality of data blocks as appended into one ECC (Error Correction Code) block by writing sequentially rows having the same row number in the pair of data blocks, to the storage medium".

Independent claim 14 recites a combination of steps including "combining the pair of data units having the appended outer parity and inner parity into one ECC (Error Correction Code) block by reading out sequentially rows having the same row number in the pair of data units and recording the read-out rows having the same row number as one row of the ECC block".

Independent claim 21 recites a combination of elements including "the modulated data of rows having the same row number in said pair of data units are sequentially recorded".

Independent claim 27 recites a combination of elements including "the ECC block is constructed by combining a pair of ECC sub-blocks, the combining involving reading out

sequentially rows having the same row number in the ECC sub-blocks and recording the read-out rows having the same row number as one row of the ECC block".

Applicants respectfully submit that the combinations of steps and elements set forth in claims 1, 8, 14, 21 and 27 are not disclosed or suggested by the references relied on by the Examiner.

The present invention provides an ECC encoding method and an ECC encoded storage medium by combining two data blocks in a *row-by-row* manner, *i.e.,* by writing sequentially rows having the same row number in the pair of data blocks to the storage medium. The combination in *row-by-row* manner can be done, for example, by sequentially recording the first row of the first data block and the first row of the second data block, and then the second row of the first data block and the second row of the second data block, and so on.

Unlike the *row-by-row* manner of the present invention, Jeong discloses an ECC encoding method by combining two data blocks in a *sector-by-sector* manner. The structure of a sector is shown in FIG. 7 of Jeong. As shown in FIG. 8, the blocks A and B are combined in the following order:

the first row of the first sector A1 (having the ID of the first sector A1),

the first *sector* A1 of the block A,

the first row of the second sector A2 (having the ID of the second sector A2),

the first *sector* B1 of the block B,

the first row of the third sector A1 (having the ID of the third sector A3),

the second *sector* A2 of the block A,

the first row of the fourth sector A1 (having the ID of the fourth sector A4),

the second *sector* B2 of the block B,

and so on.

Jeong in FIG. 12 discloses another way to combine the blocks A and B in the following order:

the first row of the first sector A1 (having the ID of the first sector A1),

the first-half *sector* A1 of the block A,

the first-half *sector* B1 of the block B,

the first row of the second sector A2 (having the ID of the second sector A2),

the second-half *sector* A1 of the block A,

the second-half *sector* B1 of the block B,

and so on.

Therefore, it is clearly that Jeong simply teaches combining two data blocks in a *sector-by-sector* manner (or half sector-by-half sector manner). Jeong fails to teach combining two data blocks in a *row-by-row* manner. For example, Jeong discloses that the *first row* of the block A1 is not followed by the *first row* of the block B1 (*i.e.,* the row of the same row number), but is followed by the *second row* of the block A1 (*i.e.,* the row of the different row number). Unlike Jeong, the present invention, as illustrated in the above example, combines two blocks by sequentially recording the *first row* of the first data block and the *first row* of the second data block (*i.e.,* the rows of the same row number), and then the second row of the first data block and the second row of the second data block, and so on. Therefore, Jeong fails to teach the above combinations of steps and elements as recited in claims 1, 8, 14, 21 and 27.

Zook discloses an ECC system foe generating a CRC syndrome. In particular, Zook in FIGs. 3A and 3B discloses generating the data block with ECC codes (see also Col. 8, lines 20-

51). However, the data block shown in FIGs. 3A and 3B of Zook is merely a standard data block for a DVD medium. Zook nowhere teaches how two data blocks are combined by writing sequentially rows having the same row number in the pair of data blocks. Therefore, Zook also fails to teach the above combinations of steps and elements as recited in claims 1, 8, 14, 21 and 27.

Since Jeong and Zook fails to teach at least the above-noted features of claims 1, 8, 14, 21 and 27, Applicants respectfully submit that independent claims 1, 8, 14, 21 and 27 and their dependent claims (due to their dependency) are not anticipated by Jeong and Zook. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 102 are respectfully requested.

CONCLUSION

All the stated grounds of rejection have been properly traversed and/or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently pending rejections and that they be withdrawn.

It is believed that a full and complete response has been made to the Office Action, and that as such, the Examiner is respectfully requested to send the application to Issue.

In the event there are any matters remaining in this application, the Examiner is invited to contact the undersigned at (703) 205-8000 in the Washington, D.C. area.

Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), Applicants respectfully petition for a two (2) month extension of time for filing a response in connection with the present application and the required fee of $450.00 is attached herewith.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

By _____ #41,458

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